CHAD 1999

Current Vulnerability Assessment

FEBRUARY 1999

Famine Early Warning System Project

U.S. Agency for International Development

Table of Contents

List of Abbreviations

BELACD	Bureau d'Etudes et de Liaison des Actions Caritatives et de Developpement
CASAGC	Comite d'Action pour la Securite Alimentaire et la Gestion des Crises
DERA	Direction de l'Elevage et des Ressources Animales
DOP	Direction de l'Organisation Pastorale
DREM	Direction des Ressources en Eau et de la Meteorologie
DSA	Division de la Statistique Agricole
GOC	Government Of Chad
MOA	Ministry Of of Agriculture
NFSS	National Food Security Stocks
ONC	Office National Cerealier
ONDR	Office du Developpement Rural
SAP	Systeme d'Alerte Precoce
SODELAC	Societe de Developpement du Lac

Executive Summary

This current vulnerability assessment (CVA) considers the ability of populations to meet their food needs between February 1999 and October 1999.

The 1998 rainy season was characterized by poor spatial and temporal distribution of rains till the end of June. Well-distributed and quantitatively adequate rains prevailed afterward through the end of the growing season in late October. River levels were very good and flood levels were adequate in recessional agriculture areas. These conditions resulted in good crop production at the national level. Preliminary production assessments estimated 1998/99 gross national cereal production at 1,277,385 MT. The production this year has set a new record. It is 30 percent higher than in 1997/98, approximately 40 percent higher than the 1993/94-1997/98 average, and approximately 8 percent higher than the bumper crop of 1994/95. The part of this production that will be available for consumption was estimated at 1,064,187 MT. Given estimated cereal consumption needs for the 1998/99 consumption year of 1,150,030 MT, net stocks of -1,471 MT, and projected imports of 66,900 MT, the national cereal balance is estimated at -28,893 MT. This is an improvement over 1997/98 when the balance was -240,432 MT.

The bad season start affected the whole agricultural area of the country, resulting in some sowing and planting delays. These delays were not significant in the Sahelian zone, where short cycle crops are grown. Sahelian zone farmers have fully benefited from the good rains that fell from July to the end of the growing season. Good flood levels have also allowed for an increase in recessional sorghum cultivation. The overall result was a good harvest outcome in the Sahelian zone. The good rains of 1998 also allowed for good pastures as well as wild food production. Our vulnerability assessment indicates that Sahelian populations will be food secure for the 1999 hungry period, which is in good agreement with the EU-funded SAP preliminary analysis.

On the contrary, in the Sudanian zone, where long cycle crops are grown, the sowing and planting delays significantly affected farmers' activities. In addition, a particularly difficult hungry period experienced in the Sudanian zone has further limited farmers' productive capacity and resulted into a production decrease for both food as well as cash crops, such as peanuts and cotton. Cereal production in the Sudanian zone fell by about 10 percent compared to average. Cotton production fell from about 300,000 MT in 1997/98 down to 214,000 MT in 1998/99, a 29 decrease. High cereal prices right before harvest were a good indication of low carry-over stocks, which further limits food availability. Considering the low production level this season, the lack of carry-over stocks, reduced income from cash crops, and the previous shock that rocked the livelihood of Sudanian zone farmers, our analysis indicated that another tough hungry period is expected during the 1998/99 consumption year in most areas of Logone Occidental and Tandjile and in some parts of Logone Oriental, Mayo

Kebbi and Moyen Chari. About 540,000 rural farmers in the Sudanian zone reside in highly food insecure cantons and 448,000 in moderately food insecure cantons. (see terminology box below) (figure 1).

The Sudanian zone covers 11 percent of the national territory. But on average its cereal production accounts for 55 percent of the national production and its population represents 46 percent of the country's population. Given that in times of abundance people eat more than normal and also taking into account that Sahelian populations will stock much of their surplus, only a small part of the surplus in the Sahelian zone will be marketed. Thus, food flows from surplus to deficit areas through regular commercial channels will not be enough to offset the deficit in the Sudanian zone. Assistance to the highly food insecure will be necessary.

The warning has been early enough for response planning. However, negotiations between major donors and GOC may be lengthy and could, therefore, delay an effective and timely response.

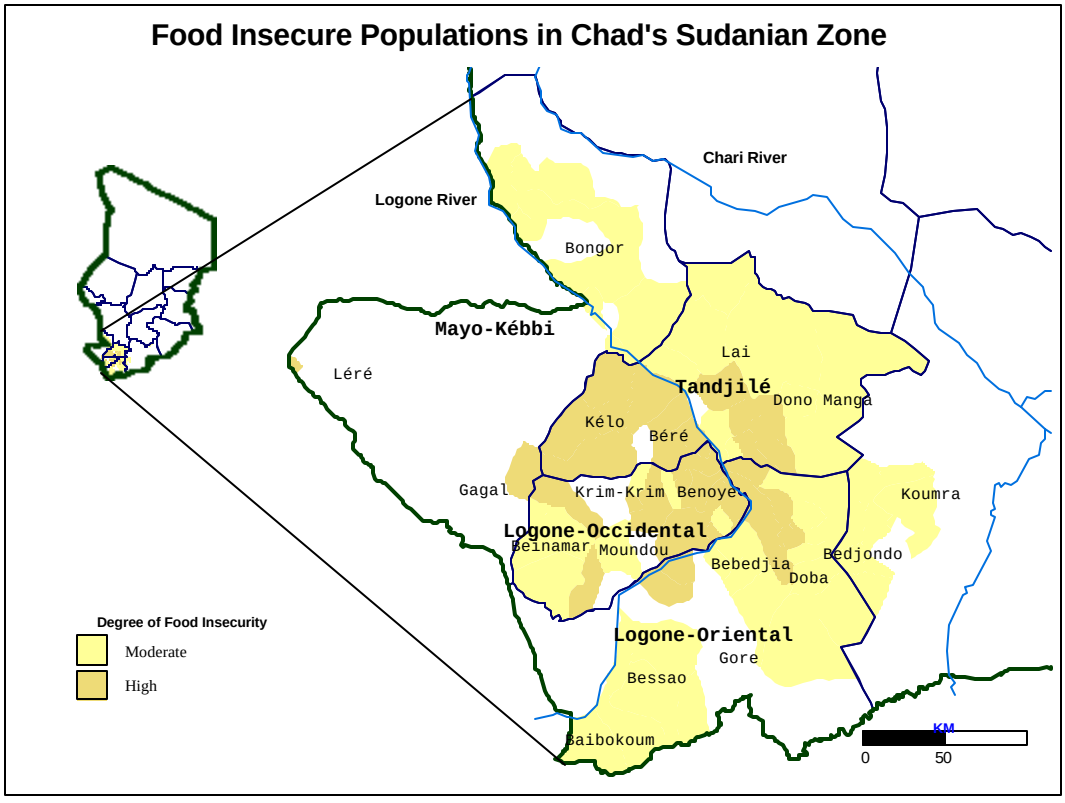


Figure 1
Source: FEWS

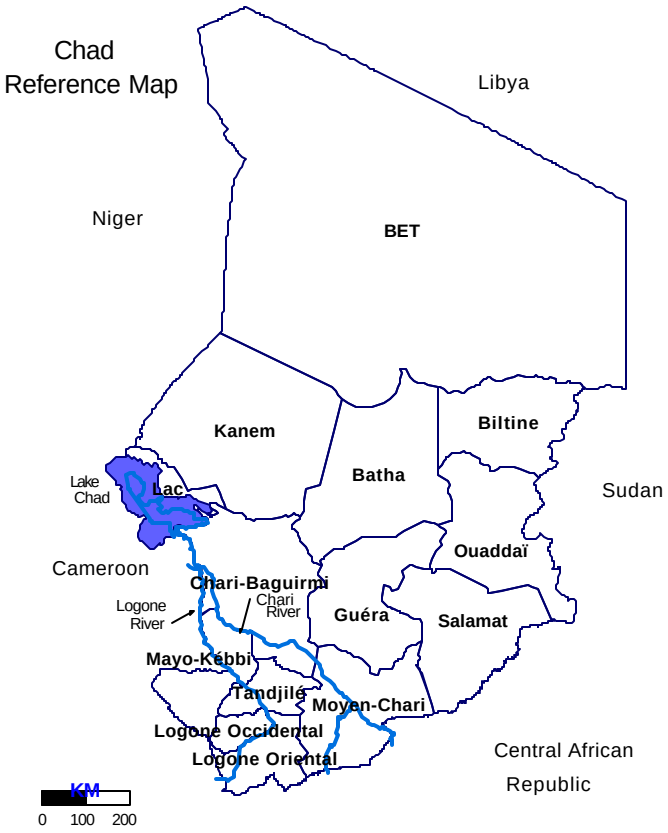

Chad
Reference Map
Libya
Niger
BET
Kanem
Biltine
Batha
Lake
Chad
Lac
Sudan
Ouaddaï
Cameroon
Chari-Baguirmi
Logone
River
Chari
River
Guéra
Salamat
Mayo-Kébbi
Tandjilé
Moyen-Chari
Logone Occidental
Logone Oriental
Central African
Republic
KM
0 100 200

Figure 2

I. Introduction

This Current Vulnerability Assessment (CVA) focuses on current or transitory food insecurity (see Key Terms box).

For the current consumption period (November 1998 and October 1999), it:

- evaluates whether there will be enough food available at the national level to meet the consumption needs of the entire population
- identifies cantons where the 'average' household is likely to be food insecure
- describes the extent to which households in these cantons are food insecure and provides a basis for determining where concerted monitoring and possible interventions (including emergency food aid) may be needed
- summarizes the actions that are being taken or need to be taken to respond to any food emergencies.

Key Terms

Food security is a measure of whether an individual, household, community, or population group has access to sufficient foods that meet dietary needs and preferences for an active life.

Food availability is defined as the amount of food that is, and will be, physically available in the country during the current consumption year through a combination of domestic production, stocks, or net imports (imports minus exports).

- *Food accessibility* refers to a household's ability to acquire available food for the current consumption year through a combination of its own production and stocks, market transactions, or transfers.

Food insecurity, in contrast, is the lack of access to enough food. There are two kinds of food insecurity: chronic and current.

- *Chronic (or long-term) food insecurity* is a continuously inadequate diet caused by the inability to acquire food. It affects households that persistently lack the ability either to buy enough food or to produce their own.
- *Current (or transitory) food insecurity* is a temporary decline in a household's access to enough food. It results from instability in food prices, food production, or household incomes.
  (Adapted from World Bank, 1986)

In Current Vulnerability Assessments, which focus on current food insecurity, FEWS classifies areas, or specific socioeconomic groups within areas, as food secure or food insecure. In food-secure areas, an average household can maintain normal seasonal consumption patterns in the current year without altering normal income or savings strategies. In food-insecure areas, this is not the case.

To assist decision-makers in prioritizing emergency food allocations within and between countries, FEWS classifies populations in food-insecure areas by degree of food insecurity:

- **Extremely food-insecure** populations have depleted their asset base to such an extent that without immediate outside assistance, they will face famine. Appropriate interventions include emergency food distributions and long-term rehabilitation programs.
- **Highly food-insecure** populations will have to reduce consumption or draw down assets to such an extent that they could compromise their future food security. Appropriate interventions include nutritional support for vulnerable groups, food for work, income and asset support, and market interventions.
- **Moderately food-insecure** populations can maintain normal seasonal consumption patterns in the current year, but only by drawing down savings or relying heavily on secondary income activities. Should market access or income from secondary activities be compromised, these populations might become highly food insecure in the current year. No interventions are necessary, but contingency plans should be developed to respond if conditions deteriorate.

II. National Food Security

A. Domestic Food Availability

There are two main components of domestic food availability: national food production and food stocks.

1. Production

Though rainfall distribution was poor at the beginning, it started improving in early July and remained good for the rest of the growing season. This has allowed for very good yields in areas that did not experience food insecurity during the 1998 hungry period (May-September). As a result, production this year has been good. It is 30 percent above the 1997/1998 harvest and 40 percent above the 1993/94-1997/98 average.

Table 1. Comparison of 1998/99 Provisional Gross Production Estimates With Final Estimates for 1997/98 and Average (1993/94-1997/98)

			Cereal					
Season	Berbere	Fonio	Maize	Millet	Rice	Sorghum	Wheat	Total
1998/99	122998	701	172715	365576	100230	513930	1235	1277385
1997/98	94587	1243	99141	248382	112288	426592	3600	985833
Average(1993/94-1997/98)	96191	502	91329	253108	80529	388125	2766	910626
Difference in % 1998/'99 vs 1997/98	30	-44	74	47	-11	20	-66	30
Difference in % 1998/99 vs Average	28	40	89	44	24	32	-55	40

Source: Ministry of Agriculture, FAO/CILSS

2. Stocks

Estimated stocks include farmer stocks, commercial stocks, the National Food Security Stocks (NFSS) managed by Office National Cerealier (ONC), and WFP stocks for its school feeding programs. Stocks were estimated at 8,479 MT as of the end of October 1998 (see Table 2 for details).

Farmers stocks have never been assessed in a satisfactory manner; however, record high cereal prices observed during this past hungry period were a good indication of extremely low farmers stocks.

Table 2: Initial Stocks

Stock/Commodity	Rice	Wheat	Other cereals	Total
Merchants	500	1,500	3,000	5,000
ONC			1,100	1,100
WFP			2,379	2,379
Total	500	1,500	6,479	8,479

B. Food Requirements

Food requirements for the year include food use and closing stocks, including requirements for replenishing the national security stocks.

1. Food Use

a. Population

The National Statistics Office estimates the country's population at 7,232,896 at the end of April 1999. The population is derived from the 1993 census using a 2.36 percent national growth rate per annum.

b. Consumption Requirements

The national food (cereal) consumption requirement is calculated using an annual per capita consumption requirement of 159 kg. This figure comes from a recent study,[1] which updated the average consumption standard from the formerly used standard of 140 kg/year per capita. Thus, the total need for human consumption amounts to 1,150,030 MT.

2. Closing Stocks

ONC plans to take advantage of harvest time low prices to purchase about 9,500 MT of cereals in the first quarter of 1999 to reconstitute its stocks so that it will be in a better position to address any food security crisis that may arise. The Government is negotiating with the EU and France to allow ONC to use counterpart funds to make the planned purchases.

Farmer and commercial closing stocks have not been estimated due to lack of information.

[1] Charmes, J, 1997: Etude sur la Consommation et le Secteur Informel au Tchad (ECOSIT) pp. 38. DSEED (Direction de la Statistique des Etudes Economiques et Demographiques), Ministère des Finances, de l'Economie, du Plan et de l'Amenagement du Territoire, N'Djaména.

C. Trade

Cross border flow of traditional cereal (sorghum, maize, and millet) is very limited for a variety of reasons:

1) A difference in dietary habits with the Central African Republic and much of Cameroon, where people eat more tubers and root crops (yams, cassava, etc.)
2) Any potential flows from Nigeria must flow through Cameroon, therefore crossing two borders. This increases the amount of informal taxes at border crossing and limits profits.
3) The production areas on either side of the Niger-Chad border are structurally deficit, providing little incentive for cereals to flow. In addition, the transport infrastructure linking Niger and Chad is very poor, reducing further any possibility of significant cereal trade.
4) While Sudan shares a long border with Chad and its population has similar dietary habits to those in Chad, its weak currency and high inflation hamper trade between the two countries.

1. Projected Exports

Exports from Chad are limited to livestock (mainly cattle) and non-cereal agricultural products, such as cotton, peanuts and to a lesser extent garlic and onions. According to a recent study[2] exports of cereals never occur, even during years of good production.

2. Import Requirements

Given estimated net cereal production, net stocks, and consumption needs, Chad has a net import requirement of almost 96,000 MT.

3. Projected Commercial Imports

Most cereal trade is limited to rice and wheat imports, which are captured in official trade statistics. The Agricultural Statistics Division has projected commercial cereal imports at 10,000 MT of rice and 50,000 MT of wheat grain. This is less than 1997/98 imports because this year's estimated overall cereal production has increased.

4. Projected Food Aid Imports

Given the good national production no donor is planning to import food aid for the 1998/99 period except WFP, which plans to import 4,092 MT of fortified sorghum flour (6,900 MT in cereal-equivalent terms).

[2] DSEED

D. National Food Balance

Cereal availability from current production, opening stocks and anticipated imports amounts to 1,131,087 MT. Consumption needs are estimated at 1,159,980 MT, resulting in a net deficit of 28,893 MT (table 3). The current year net deficit is 88 percent lower than last year's (1997/98) net deficit of 240,708 MT, and cereal availability has increased by approximately 20 kg per capita compared to 1997/98.

Table 3. Preliminary Cereal Balance for 1998/99

	Rice	Wheat	Traditional Cereals	Total
Population through 4/30/1999				7,232,896
I. Availability	55,627	2,550	1,006,011	1,064,187
Production				
Gross production	100,230	1,235	1,175,920	1,277,385
Net production[1]	55,127	1,050	999,532	1,055,708
Initial stocks as of 11/1/97	500	1,500	6,479	8,479
Farmer	0	0	0	0
Other	500	1,500	3,000	5,000
II. Needs	72,040	71,606	1,016,335	1,159,980
Human consumption[1]	72,040	71,706	1,006,385	1,150,030
Final stocks	-	-	9,950	9,950
Farmer	—	—	—	—
Other	-	-	9,950	9,950
III. Gross Surplus (+) or Deficit (-)	-16,413	-69,056	-10,234	-95,793
IV. Imports/Exports	61,030	66,437	0	127,467
Projected Commercial Imports	10,000	50,000	6,900	66,900
Projected food aid	-	-	6,900	6,900
Projected exports	0	0	0	0
V. Net Surplus (+) or Deficit (-)	-6,413	-19,056	-3,424	-28,893
VI. Per Capita Cereal Availability[1] (kg)	9.07	7.27	140.04	156.38

Sources: Ministry of Agriculture, FAO/CILSS

E. Caveats, Risk, and Uncertainty

At the time of this report (February), it is already clear that recessional sorghum production will be very good, probably better than anticipated in the pre-harvest assessment. This will increase availability in the Sahelian zone. Some cereal merchants may move stocks to the Sudanian zone in anticipation of substantial price increases during the hungry period in areas of substantial production shortfalls. If this happens, then food availability will be better than assumed in our analysis.

III. Household Food Security

A. Objective of the Analysis

The objective of the analysis of food security at the household level is to:

- identify cantons where the 'average' household is likely to be food insecure (see FEWS Food Security Terms)
- describe the extent to which households in these cantons are food insecure and provide a basis for determining where concerted monitoring and possible interventions (including emergency food aid) may be needed.

FEWS Food Security Terms

In Current Food Security Assessments, which focus on current food insecurity, FEWS classifies areas, or specific socioeconomic groups within areas, as food secure or food insecure. In food-secure areas, an average household can maintain normal seasonal consumption patterns in the current year without altering normal income or savings strategies. In food-insecure areas, this is not the case.

To assist decision makers in prioritizing emergency food allocations within and between countries, FEWS classifies populations in food-insecure areas by degree of food insecurity:

- **Extremely food-insecure** populations have depleted their asset base to such an extent that without immediate outside assistance, they will face famine. Appropriate interventions include emergency food distributions and long-term rehabilitation programs.
- **Highly food-insecure** populations will have to reduce consumption or draw down assets to such an extent that they could compromise their future food security. Appropriate interventions include nutritional support for vulnerable groups, food for work, income and asset support, and market interventions.
- **Moderately food-insecure** populations can maintain normal seasonal consumption patterns in the current year, but only by drawing down savings or relying heavily on secondary income activities. Should market access or income from secondary activities be compromised, these populations might become highly food insecure in the current year. No interventions are necessary, but contingency plans should be developed to respond if conditions deteriorate.

B. Conceptual and Operational Approach

1. Household Food Security

The CVA analysis is founded on a model of household income, or more specifically, strategies households use to acquire food. Although the conceptual framework is based on the household, the CVA takes the canton, that is the 4th order administrative unit, as the unit for analysis. This is done for two reasons: canton-level data are available, unlike household data, and emergency responses to food insecurity or mitigation efforts focus on administrative units rather than households. In taking the canton as the unit of analysis, CVA conclusions apply to an 'average' household in the canton but do not necessarily hold for the poorest and richest households within a canton.

2. Socioeconomic Groups

This CVA considers current food access of farmers, pastoralists and urban dwellers.

a. Rural populations
The main subgroups within this category are farmers and pastoralists.

Farmers
This group represents about 73 percent of the total population and constitutes the bulk of the rural population. All farmers practice dryland agriculture, and most integrate small-scale livestock raising. There are important subgroups of farmers who, in addition to practicing dryland agriculture and raising livestock, supplement their incomes through recessional agriculture (sorghum, rice, maize, and wheat), large scale market gardening, or seasonal fishing.

Dryland farmers
In the Sudanian zone dryland farmers grow diversified food crops, including cereals, cassava, and yams. Most grow cash crops such as peanuts and cotton. In the Sahelian zone, dryland farmers have much less diversified cropping systems. They mainly grow millet and sorghum. During the nine months of dry season, much of the work force leaves the villages to seek employment in towns or other rural areas where there are better employment opportunities in market gardening, off-season agriculture, and seasonal fishing. Those who remain in the villages normally engage in labor intensive and less lucrative activities such as cutting hay or firewood, producing charcoal, and collecting wild food. In southern Oum-Hadjer Subprefecture (Batha Prefecture) and in Mangalmé Subprefecture (Guéra Prefecture), people make and sell palm mats. In Abéché Rural Subprefecture in Ouaddaï, an important subgroup of dryland farmers rely heavily on income from onions and garlic produced during the dry season to purchase

cereals. The onions and garlic produced in the wadis of Ouaddaï meet a large share of national demand and are also exported to CAR, Congo, and Gabon.

Recessional farmers

This subgroup includes farmers who practice a combination of rainfed and recessional agriculture. It includes people living in the flood plains of Salamat, the Mayo Kebbi and Tandjilé water shed areas, the Lake Chad polder area, and the Lake Fitri area of Batha. In Salamat and around Lake Fitri, berbéré (recessional sorghum) is the main recessional crop grown. In the polders of Lake Chad, maize and wheat comprise most of the recessional crops. In Mayo Kebbi and Tandjilé, berbéré and recessional rice supplement rainfed production.

Recessional farmers are less vulnerable to drought than dryland farmers because they can integrate recessional and rainfed production. Recessional production depends on the river levels, which depend more on rainfall upstream than on local rainfall. Drought may prevail locally, but if rainfall is good upstream or somewhere within the river catchment basin, then the recessional agricultural production is not affected. In the rice-producing Prefectures of Mayo Kebbi and Tandjilé, farmers can compensate for expected reductions in rice production by shifting to recessional sorghum. However, while recessional farmers are less vulnerable to drought they can be as much vulnerable to other causes of food insecurity. The case of this past hungry period, when people weakened by food shortages were not able to take good advantage of the good rains and high flood levels, was a good illustration.

Farmer-Fishers

In addition to dryland and recessional farming, seasonal fishing is practiced by people living around lakes Iro (Moyen Chari Prefecture), Fitri (Batha Prefecture), Léré (Mayo Kebbi Prefecture), Chad (Lac Prefecture); along the Chari and Logone Rivers, and around permanent ponds such as Assida, Amdouma, and Gara (Salamat Prefecture). The fishing population was estimated by DEPA (Direction des Eaux Pêches et Aquaculture) in June of 1994 to be approximately 300,000 people. No reliable records exist, but a study on the informal sector[3] suggested that annual fish production could be around 50,000 MT. The same study suggested a strong correlation between river levels and fish production.

Pastoralists

Pastoralists represent about 6 percent of the total population in Chad. Based on the type of livestock owned, pastoralists can be divided into camel herders, cattle

[3] Charmes, J, 1997: Etude sur la Consommation et le Secteur Informel au Tchad (ECOSIT) pp. 38. DSEED (Direction de la Statistique des Etudes Economiques et Demographiques), Ministère des Finances, de l'Economie, du Plan et de l'Amenagement du Territoire, N'Djaména.

herders, and small ruminant (goats and sheep) herders. All pastoralists lead a nomadic lifestyle and earn their living through sales of livestock and dairy products. Camel herders also derive a significant share of their income from providing transport services in isolated areas with limited road access. In Salamat during berbéré harvest, camels transport the harvest from the field to storage locations. Pastoralists rely on market purchases and payment in kind for transport services to meet their cereal consumption needs.

During the rainy season, when wet conditions in the south foster favorable conditions for insects and animal diseases, pastoralists move their households and herds north, where drier conditions provide a healthier environment for livestock. At the end of the rainy season, as surface water for livestock becomes scarce in the north, herders start their seasonal migration southward. The tranhumance pattern of camel and goat/sheep herders extends from the northern Sahel to the Sahelo-Sudanian areas (Salamat Prefecture, Melfi Subprefecture in Guéra, Bousso Subprefecture in Chari Baguirmi, and Bongor Subprefecture in Mayo Kebbi). The transhumance pattern of cattle herders is much more extensive, stretching from northern Batha, Biltine, and Kanem to the southern frontier of Chad.

Given the vast extent of pastureland in Chad, pastoralists can usually find adequate pasture for their livestock. However, when a major drought occurs, water becomes a limiting factor. Camel and goat herders are less vulnerable to drought than cattle herders because goats and camels, feed on perennial plants that can withstand drought better than the annual grasses cattle feed on. In addition, goats need less water and camels can survive without water for longer periods than cattle. As surface water becomes scarce, herders converge on what few water sources remain, and overcrowding leads to overgrazing and often the spread of animal diseases. As available pastures are depleted, animals lose weight; milk production falls and so does the value of livestock, reducing pastoralists' two most important sources of revenue. This in turn limits pastoralists' purchasing power and their access to food.

b. Urban populations

Based on the 1993 census, 21 percent of the total population is urban. Within this group there are two subgroups[4]. The first subgroup consists of residents of the four major cities (N'Djaména, Moundou, Sarh, and Abéché) and represents 59 percent of the total urban population. The second subgroup consists of residents of secondary cities (such as Prefecture capitals).

Residents of major cities

These urban residents earn their living through a wide range of activities, most of which fall within the informal sector of the economy, such as commerce,

[4] Bureau Interministeriel d'Etudes et de Programmation (B.I.E.P.) 1991: Evaluation Rapide de la Securité Alimentaire au Tchad, pp 57.

handicrafts, and selling water. A minority are employed as soldiers, civil servants, and private-sector employees. Urban residents of major cities purchase most of their food, and their access to food is tightly linked to food prices.

Residents of secondary cities

Residents of secondary cities have more diversified income than their counterparts in major cities. They are more likely to farm and own livestock, providing them with additional income to supplement their urban-income activities.

3. Methodology

a. Availability

Current availability consists of production and stocks. Agricultural production data are only available at the prefecture level (second order administrative unit). In order to assess household food security the canton level (4th order administrative level), we, therefore, resorted to remote sensing data to make a qualitative assessment of rain-fed crop and pasture production. The results were first corrected for recessional agricultural production using data on river levels and field reports. This takes care of the agro-climatological factors. Another correction to account for socio-economic factors has been also applied. Price analysis for the growing period has been performed because prices provide a good indication of the supplies levels and also because access difficulties hamper farmers activities and limit their production capabilities. Other socio-economic information on coping strategies are used as well.

b. Accessibility

The accessibility is dealt with through pre-harvest as well as post-harvest price analysis and cash crop production. Pre-harvest prices give an indication the investment a farmer household makes in crop production by acquiring food in order to have strength to farm the land. Post-harvest prices give the value of the investment. For example low post–harvest prices mean that the average farmer sells more of his harvest to cover his needs, which will in turn limit his access to food during next hungry period. Also low cash crop production mean that farmers have to sell more grain they normally do, and their stocks may be depleted at a faster rate.

C. Overview of Current Factors Affecting Household Food Security

1. Production

The analysis indicates (figure 3) that the Sahelian zone has had a good food and pasture production except for a narrow strip at the eastern border. Food will flow through regular commercial channels to supply this strip. Sahelian households are, therefore, not expected to experience food shortages during next hungry period.

Our analysis show areas of large production shortfalls in the Sudanian zone. According to the analysis slightly low production concerns the north of Moyen Chari, northeastern Tandjilé and southwest and north of Logone Oriental. Over most of Logone Occidental and south central Tandjilé production varies from low to very low.

This is in good agreement with the results of prefecture level production estimates (table 4) which show cereal balances are better than average over all the Sahelian prefectures. For the Sudanian prefectures, however, balances are worse than average for Moyen Chari, Mayo Kebbi and Logone Oriental and about the same or slightly better for Logone Occidental, and Tandjilé.

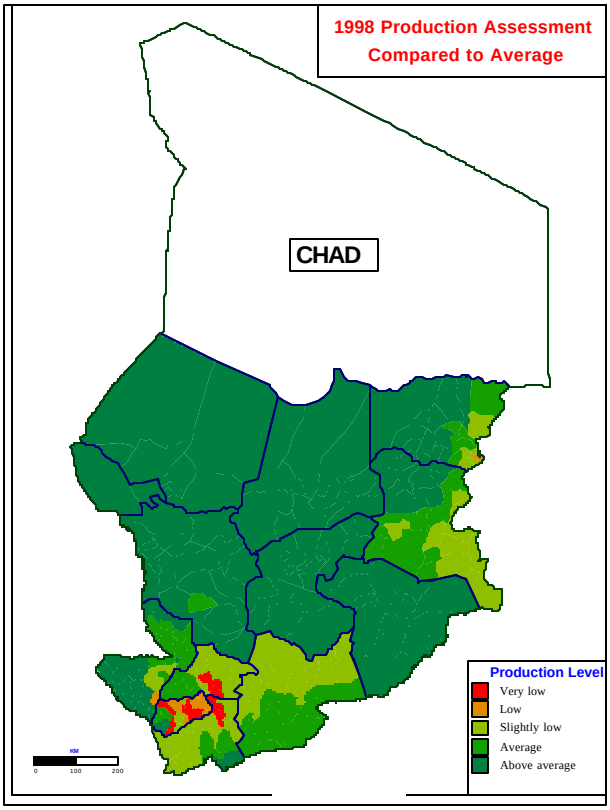


Figure 3
Source: FEWS

Table 4. Cereal Production by Prefecture

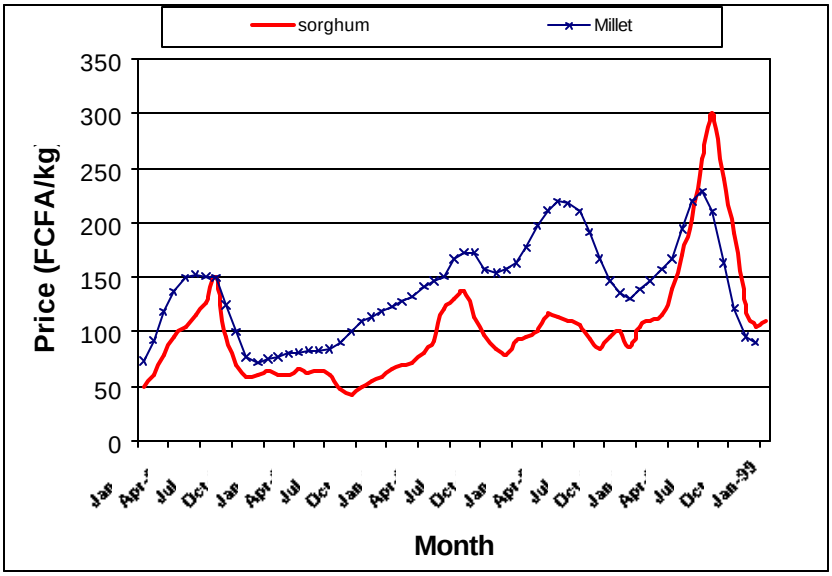
Zone	Prefecture	Avg Net Prod (kg/cap)	1998 Net Prod (kg/cap)	Dif Net Prod 1998 vs Avg (%)	Avg Cereal Balance (MT)	1998/99 Cereal Balance (MT)
Saharan	**BET**	0	0	0	-12,046	-12,912
Sahel	**Batha**	114	183	61	-14,667	7,961
Sahel	**Biltine**	57	132	132	–20,697	-5,763
Sahel	**Kanem**	22	33	50	-41,520	-40,815
Sahel	**Lac**	128	269	110	-9,055	31,473
Sahel	**Ouaddai**	124	276	123	-22,599	74,168
Sud/Sah	**Chari Baguirmi**	84	136	62	-103,203	–32,416
Sud/Sah	**Guera**	100	148	48	-20,261	–3,931
Sud/Sah	**Salamat**	290	287	-1	24,762	26,770
Sudan	**Logone Occidental**	73	79	8	-43,078	–42,049
Sudan	**Logone Oriental**	127	123	-3	-16,371	–18,007
Sudan	**Mayo Kebbi**	168	143	-15	4,065	–15,127
Sudan	**Moyen Chari**	117	95	-19	-35,638	-54,414
Sudan	**Tandjile**	140	141	1	-11,072	–9,251

Source: Ministry of Agriculture

2. Stocks

Stocks at the household level were never known to a fair level of accuracy. However, price behavior during the growing season could be used to show the level of stocks. Usually when stocks are adequate for a good season such as this one prices started declining in late July and early August, the time when the outcome of the season could be anticipated with enough accuracy. Based on this assumption and given that prices started to decline only after fresh harvest products reached the markets in addition to the record levels prices have reached this season

Figure 4: Average prices in the south (sorghum) and in the Sahel (millet)



(figure 4), stocks in general and farmers' stocks in particular were simply non-existent.

3. River Levels and Fish Production

This year rivers have reached very high levels (figure 5), and consequently fish production is expected to be above average.

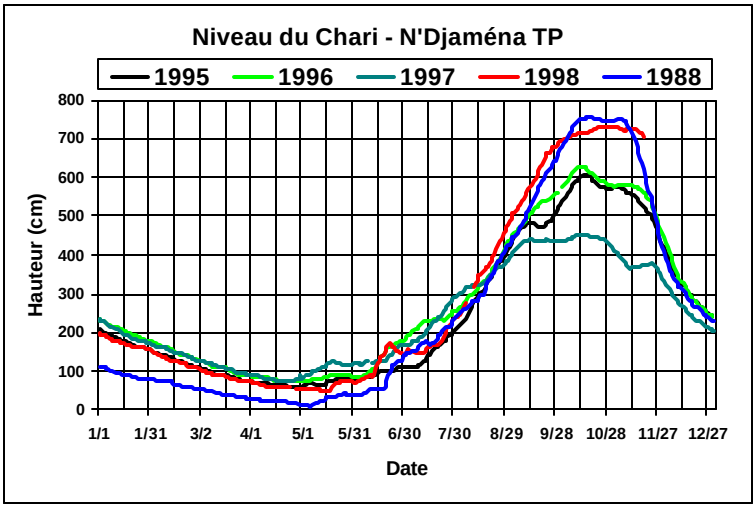


Figure 5

D. Current Food Security Status

1. Food-Insecure Areas and Socioeconomic Groups

a. Dryland farmers in the Soudanian Zone

Sudanian households have experienced a production shortfall in food as well as in cash crop. Production of peanuts for 1998/99 season was approximately equal to average, but food shortages forced farmers to eat their peanut fresh. Consequently there will be a decrease of income from peanut harvest sale. Late cotton sale of 1998 and food shortages experienced by rural Sudanian farmers caused cotton production to drop significantly. The production went from 300,000 MT last season to 214,200 MT this season according to the agricultural statistics division (DSA), a 29 percent drop.

In addition to having lower food production, households in the Sudanian zone have a heavy debt burden. The tough hungry period in 1998 forced households to contract debts to survive. In order to pay their debts they have to sell large parts of their food production right after harvest, when prices are at their lowest level.

Sudanian rural populations' off-season activity prospects are expected to remain normal. The mango season from February to late May will help maintaining a good nutritional level. However, Sudanian households' food security is expected to deteriorate rapidly afterward. In areas where fishing is possible, fish production is expected to be above average. This should off-set to some extent the drop in food and cash crop production.

However, the combined factors of low carry-over stocks, below normal food production, and a drop in income from cotton and peanut sale will result into food insecurity for most dryland Sudanian farmers. About 540,000 Sudanian farmers are identified as highly food insecure and another 447,600 are moderately food insecure (Table 4). Locations of vulnerable highly vulnerable to food insecurity are mainly in the prefectures of Logone Occidental, and Tandjilé (figure 6).

2. Food-Secure Areas and Socioeconomic Groups

a. Dryland farmers in the Sahelian Zone

This year Sahelian dryland farmers had record levels of food crop production. They are expected to have a fair amount of income from their grain production surplus. Conditions are also ideal for households in areas where market gardening is possible around Lake Fitri, Lake Chad and along the Chari River.

Income generating activities in the Sahelian zone are expected to be normal throughout the season. These include handicraft, hay and charcoal sale, seasonal outmigration, diary products sale, market gardening and fishing where possible. Most Sahelian rural populations are not expected to experience any food access difficulties. For any Sahelian populations who suffered production or income losses, well developed coping ability from being exposed to frequent food insecurity events should allow them to cope. This season the wild food production has been very good according to travelers and information collected from other independent sources. Consequently even the poorest household is expected to have adequate food access. Therefore, dryland Sahelian farmers are expected to be food secure for the next hungry period

b. Pastoralists

This year, pasture and water are plentiful over the whole country south of the Saharan zone for a good animal production. Terms of trade are expected to continue their rising tendency to improve pastoralists purchasing power. Foodstuff prices are not expected to be high during the growing season in the Sahel and especially in areas where pastoralists spend the rainy season. With a good purchasing power in an area where food availability is expected to be at least normal pastoralists will be able to meet their food needs through market purchases and are considered food secure.

c. Urban Residents

Better cereal availability this year will allow merchants in large cities to secure large stocks. During the hungry period foodstuff prices are not expected to be as high as they were in 1998 and access should be easier for most urban residents. Urban populations' activities are also expected to remain normal throughout the season. Urban populations are, therefore, considered food secure.

E. Caveats, Risk, and Uncertainty

At the time of this report (February), it is already clear that recessional sorghum production will be very good, probably better than anticipated in the pre-harvest assessment. This will increase availability in the Sahelian zone. Some cereal merchants may move stocks to the Sudanian zone in anticipation of substantial price increases during the hungry period in areas of substantial production shortfalls. If this happens, then food availability will be better than assumed in our analysis. In addition, even in areas of crop production shortfall, wild food production is expected to be good. Thus, consumption of wild food and proceeds from the sale of wild food such as shea nuts and *néré* could increase food access during the hungry period. If it happens, food access will be easier than our results have indicated.

Table 5. Food-Insecure Populations in 1999

Prefecture	Sous/Prefecture	Socio-economic Group	Highly	Moderately
Logone Occidental	**Beinamar**	Farmers	17749	45537
	Benoye	Pastoralists	108297	19211
	Krim-Krim	Farmers	18025	20758
	Moundou	Farmers	63055	18306
Logone Oriental	**Baibokoum**	Farmers	0	11692
	Bebedjia	Farmers	19083	68339
	Bessao	Farmers	0	46969
	Doba	Farmers	21138	89628
	Gore	Farmers	19108	0
Mayo Kebbi	**Bongor**	Farmers	0	68008
	Gagal	Farmers	6799	0
Moyen Chari	**Bedjondo**	Farmers	0	73546
	Koumra	Farmers	0	24160
Tandjilé	**Béré**	Farmers	27271	0
	Dono Manga	Farmers	28690	44930
	Kélo	Farmers	211763	0
	Lai	Farmers	17107	104708
Total			540336	447619

Source: FEWS

IV. Actions Required

This CVA has identified about 550,000 people living in southwestern Chad as highly food insecure during this coming hungry period. These populations will be in need of food aid assistance. Given the good cereal availability at the national level, subsidized sale is to be recommended. The assistance should cover half of the needs for two months (July & August) during the peak of the hungry period. Considering the national consumption norm of 159 kg per capita a year the maximum amount of cereal (for the entire population) for subsidized sale would be 7,300 MT. ONC is planning to carry out a subsidized sale of 3,000 MT of grain purchased with the French counterpart funds. During the subsidized sale, the team conducting the sale will identify the most food insecure, who will be targeted by WFP for free distribution of 1,200 MT of assorted food items.

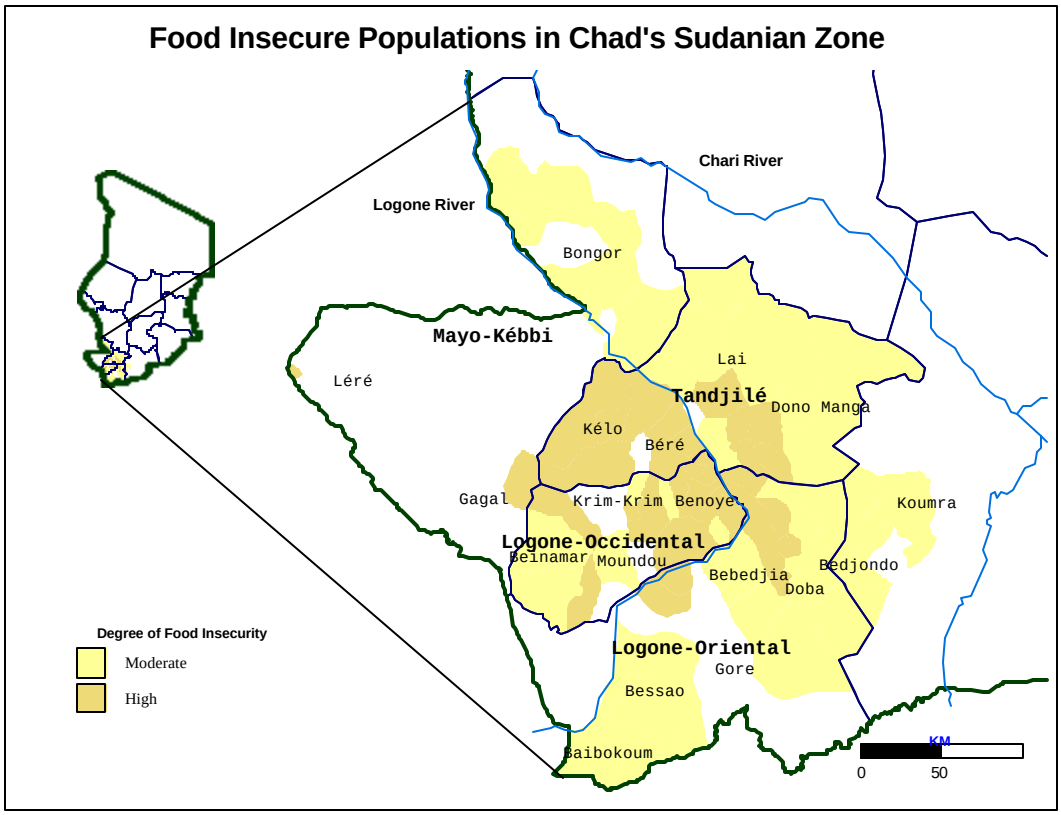


Figure 6
Source: FEWS